Author Index of Volume 193

Abe, M., 110
Adachi, G.-Y., 271
Alloul, H., 135
Amano, T., 20
Ando, A., 17
Aozasa, S., 298
Arai, H., 59
Araki, T., 41
Araujo, A. S., 65

Benedict, U., 88, 306
Bernhard, J., 295
Börjessen, L., 132
Buschow, K. H. J., 223

Cao, Z., 192
Caro, P., 148
Clark, D. L., 94

Daoud, M., 219
Date, M., 309
Del Cul, G. D., 194
Dönni, A., 309
Dosaka, Y., 274
Du, T., 38

Edelstein, N. M., 82
Eguchi, K., 59

Faucher, M., 210
Fischer, P., 309
Fuger, J., 119
Fujii, T., 23
Fujimura, N., 289
Fujita, A., 245, 256
Fukuda, T., 295
Fukuda, Y., 245, 256
Fukushima, K., 33, 36
Furrer, A., 309
Furutani, G., 104

Garcia, D., 210
Granberg, P., 295
Gschneidner, Jr., K. A., 1

Haga, E. M., 274
Haga, M., 23, 277
Hasegawa, R., 17
Hasegawa, T., 298
Hayashi, M., 252
Heathman, S., 306
Higashi, I., 295, 300
Higashi, K., 29
Hihara, T., 252
Hinatsu, Y., 113
Hirao, K., 207
Hirosawa, S., 262
Hirota, M., 104
Hobart, D. E., 94
Honma, S., 286
Horikawa, Y., 266
Hoshi, M., 107
Huang, Y.-L., 242
Hulliger, F., 309

Igarashi, K., 36
Ikeda, M., 36
Imada, S., 170
Imaeda, Y., 252
Imahashi, K., 277
Imai, H., 76
Imamura, H., 52, 62
Ino, H., 249
Inoue, A., 29
Inoue, T., 59
Inui, T., 47
Iriyama, T., 235
Ishige, M., 65
Ishitsuka, M., 274
Ishizawa, Y., 286
Isogai, A., 73
Itagaki, K., 26
Ito, T., 289
Itoh, K., 239
Itsukaichi, T., 262
Iwadate, Y., 33, 36
Iwata, N., 303

Jalan, V., 11
Jayasankar, C. K., 189, 203
Jin, S.-G., 242
Jo, T., 170
Judd, B. R., 155

Kagawa, S., 70
Kakebayashi, H., 70
Kakihana, M., 132
Kakuta, T., 283
Käll, M., 132
Kamihira, K., 17
Kanashiro, T., 135
Kaneko, A., 44
Kanellakopulos, B., 119
Kanematsu, K., 239, 266
Kasaya, M., 300
Kato, H., 235
Katsura, M., 101, 104, 122
Katsuyama, S., 139, 268, 280
Kawano, S., 303
Kawashima, T., 33
Kay, D. A. R., 11
Kibler, M., 219
Kimura, M., 73
Kishimoto, Y., 135
Kita, E., 249
Kitano, Y., 245
Kobashi, A., 107
Kobayashi, K., 235, 300
Kobayashi, K.-I., 239, 266
Kohzuma, H., 41
Kondo, S., 249
Kondo, T., 116
Kooy, H. J., 197
Kosuge, K., 139
Kot, W. K., 82
Kunii, S., 292
Kuroda, H., 33
Kushida, T., 183

Lee, Y.-H., 79
Lee, Y. K., 289
Li, H., 68
Li, Z., 26
Lin, X., 7
Lister, G. M. S., 155
Liu, A., 38
Liu, L.-M., 242
Lo, T. S., 180
Loong, C.-K., 125, 142
Lou, H., 68
Lundström, T., 295

Ma, F., 68
Machida, K.-I., 271
Majima, K., 139, 268, 280
Mao, Z., 68
Mase, K., 145
Masumoto, T., 29
Matsuda, M., 283
Matsuda, Y., 23, 277
Matsui, H., 298
Mazaki, H., 132
Meng, J., 129
Mitani, S., 303
Miyake, C., 98, 116
Miyake, M., 101, 104, 122
Mizuno, K., 135
Mochinaga, J., 33, 36
Moriguchi, I., 70
Morita, M., 23, 277
Motoyama, M., 298
Moune, O. K., 210
Mukai, T., 29
Murota, T., 298
Myojin, T., 252

Nagai, H., 139, 268, 280
Naito, K., 110
Nakagawa, Y., 235
Nakashima, Y., 52
Nakayama, R., 259
Nave, S. E., 194
Niimi, N., 268, 280
Nishio, S., 132

Ogawa, O., 17
Ohe, Y., 309
Ohkubo, N., 239
Ohno, T., 135, 252
Ohtera, K., 29
Okada, C., 44
Okane, I., 262
Okuwaki, A., 274
Otani, S., 286
Otsuka, K., 56
Oyamada, A., 309
Ozaki, Y., 245
Ozawa, M., 73

Palmer, P. D., 94
Park, Y.-Y., 186
Peterson, J. R., 165, 194, 306

Ravi Kanth Kumar, V. V., 189
Rebizant, J., 119
Reid, M. F., 160, 180, 189, 197, 203
Ren, Y., 129
Renuka Devi, A., 203
Ridwan, 303
Rukmini, E., 203
Ruokolainen, A., 295

Saeki, M., 107
Sakamoto, J., 98
Sakamoto, Y., 41
Sakata, Y., 52, 62
Sato, T., 274
Sawada, M., 266
Sechovsky, V., 119
Serizawa, H., 101
Setoguchi, T., 59
Shi, C., 192
Shigeoka, T., 303
Shimomura, J., 245
Shimotomai, M., 245, 256
Shishido, T., 295
Siratori, K., 249
Soderholm, L., 125, 142
Soga, N., 207
Song, C., 17
Spirlet, J. C., 119
Stout, B. E., 94
Su, Q., 129
Sugiyama, K., 309
Sullivan, J. C., 94
Suzuki, K., 7
Suzuki, T., 309
Suzuki, Y., 132

Taguchi, S., 110
Taguchi, T., 20
Takabatake, T., 300

Takahashi, K., 122
Takamiya, T., 116
Takao, K., 41
Takei, H., 295
Takeshita, T., 231, 259
Tanaka, M., 183, 249, 283
Tanimura, S., 29
Teraoka, Y., 70
Tergenius, L.-E., 295
Todoroki, S., 207
Tokita, S., 266
Tominaga, T., 107
Tomiyasu, H., 186
Tomizawa, H., 268
Tsuchiya, S., 52, 62
Tsuji, T., 110
Tsujimura, A., 252

Uemura, T., 216
Umegaki, T., 283
Umemoto, M., 262
Urabe, T., 122
Ushida, T., 252

Wada, S., 76
Wang, L., 38
Wastin, F., 119
Watanabe, M., 280
Wilson, W. G., 11
Wu, Y., 38
Wu, Y.-S., 79

Xu, Y., 68

Yamaguchi, H., 52
Yamaguchi, T., 235
Yamamoto, E., 271
Yamamoto, Y., 44
Yamamura, T., 186, 216
Yamanaka, I., 56
Yamashita, K., 283
Yasuda, K., 26
Yasuoka, H., 132
Yen, W. M., 175
Yeung, Y. Y., 213
Yoneda, Y., 116
Yonezawa, C., 107
Yoshimoto, N., 23, 277
Yoshimura, M., 132

Zhang, Y., 38
Zinner, K., 65
Zinner, L. B., 65

Subject Index of Volume 193

Adsorption
separation of actinoid(III) and actinoid(IV) by solvent extraction and adsorption, 107
Alkylation
catalytic activity of lanthanide-doped Y zeolite on the alkylation of benzene with 1-dodecene model reaction, 65
Aluminium
very high strain rate superplasticity in Al-based alloys produced from amorphous powders, 29

Barium
electrochemical preparation of Y–Ba–Cu oxide layer on Cu, 145
Boron
magnetic properties and crystal structure of $ErRh_3{}^{11}B_2$, 295
magnetization process of DyB_6 single crystal, 292
Nd–Fe–B anisotropic magnet powders produced by the HDDR process, 259
preparation of LaB_6 single crystals by the floating zone method, 286
Butenes
catalytic isomerization of *n*-butenes and hydrogenation over a Sm oxide and Ga_2O_3-modified Sm oxides, 52

Catalysis
catalytic activity of amorphous lanthanum boron oxide for decomposition of azomethane, 76
catalytic activity of lanthanide-doped Y zeolite on the alkylation of benzene with 1-dodecene model reaction, 65
catalytic isomerization of *n*-butenes and hydrogenation over a Sm oxide and Ga_2O_3-modified Sm oxides, 52
catalytic properties of lanthanide-metal-dosed catalyst systems, 62
rare earth oxides as transport media for rapid catalytic reactions, 47
reactivity of surface oxygen species on $SmMnO_3$ and $SmFeO_3$ catalysts, 68
Ceria
sintering behaviour of ceria-doped tetragonal zirconia powders crystallized and dried using supercritical alcohols, 274
Cerium
application of Ce–Zr oxide solid solution to oxygen storage promoters in automotive catalysts, 73
crystal structure of CeTSn (T = Ni, Pd and Pt), 300
hybridization, crystal field and magnetism in rare earths and core level spectroscopy, 170
magnetic-field-induced phase transition in the cerium monochalcogenide CeSe, 309
thermodynamics and phase equilibria for Ce and Y in the presence of oxygen and S in Ni-base solutions, 38
X-ray diffraction and Raman spectroscopic study on the short-range structure of molten $CeCl_3$, 36
Cerium oxide
production method of Ce oxide with high storage capacity of oxygen and its mechanism, 298

Chromium
spalling of the surface oxide formed on Ni–(20,40,60,80)Cr alloys with small additions of Ce and Si, 20
Cobalt
magnetic properties of monocrystalline Nd_2 (Fe, Co, Ni)$_{14}$B, 256
NMR study of $(Y_{1-x}R_x)_2Co_{14}B$ compounds (R = Gd, Tb), 252
Computer simulation
successes and failures of computer simulations, 148
Conductors
effects of rare earth elements on the crystallization of the glass–ceramic Na^+ superionic conductor Narpsio-V, 283
Copper
electrochemical preparation of Y–Ba–Cu oxide layer on Cu, 145
Core level spectroscopy
hybridization, crystal field and magnetism in rare earths and core level spectroscopy, 170
Corrosion resistance
analytical electron microscopy of corrosion-resistant Nd–(Fe, Co, Ni, Ti)–B magnets, 245
Crystal fields
applied correlated crystal field, 210
group-theoretical analysis of correlation crystal field models, 180
two-body operators for the f shell, 197
Crystal field splitting
additional operators for crystal field and transition intensity models, 160
Crystal structure
absorption, phonon Raman, and luminescence spectroscopic probes of crystal structure of f-element compounds, 165
effects of rare earth elements on the crystallization of the glass–ceramic Na^+ superionic conductor Narpsio-V, 283
Crystallization
effects of rare earth elements on the crystallization of the glass–ceramic Na^+ superionic conductor Narpsio-V, 283
Curium
Pr and Cm in superconductor-related oxides, 125
Cyclohexane oxidation
partial oxidation of alkanes and aromatics with activated oxygen over an $SmCl_3$-embedded graphite cathode, 56

Diffusion
diffusion of U in Ti-doped U dioxide, 110
Dysprosium
magnetic properties of R_2T_{17}-type $Dy_2Fe_{17-x}Al_x$ compounds, 239
magnetization process of DyB_6 single crystal, 292
pulsed electrodeposition of Dy–Fe, 23

EDXRD
energy dispersive X-ray diffraction analysis of $NdBr_3$ at pressures up to 52 GPa, 306
Electrical conductivity
electrical conductivity of molten YCl_3–NaCl, YCl_3-KCl and YCl_3-$CaCl_2$ systems, 33

Electrical resistivity
electrical and magnetic properties of $YSr_{2-x}Ca_xV_3O_{9-y}$, 129
Electrochemical oxidation
partial oxidation of alkanes and aromatics with activated oxygen over an $SmCl_3$-embedded graphite cathode, 56
Electrodeposition
formation of Y oxide by electrodeposition in organic electrolyte, 277
pulsed electrodeposition of Dy–Fe, 23
Electrodes
activities of rare-earth-containing oxides as electrodes for oxide ion conductor, 59
Electrolysis
electrochemistry of rare earth fluoride molten salts, 44
Electron microscopy
analytical electron microscopy of corrosion-resistant Nd–(Fe, Co, Ni, Ti)–B magnets, 245
Electronic structure
hybridization, crystal field and magnetism in rare earths and core level spectroscopy, 170
Energy transfer
energy transfer from the excited uranyl ion to various lanthanide ions in aqueous solution, 186
Equilibrium measurements
equilibrium N_2 pressure–temperature–composition relationships for α-U_2N_{3+x} phase, 122
Erbium
comparative analysis of free-ion energy levels of Er^{3+} ($4f^{11}$) in various crystal hosts, 203
magnetic properties and crystal structure of $ErRh_3{}^{11}B_2$, 295
Europium
catalytic properties of lanthanide-metal-dosed catalyst systems, 62
J-mixing effect on the vibronic spectra of Eu^{3+} ions, 183

Floating zone method
preparation of LaB_6 single crystals by the floating zone method, 286
Fluorides
electrochemistry of rare earth fluoride molten salts, 44
Fluorite complexes
spin parameters for the rare earth ion Gd^{3+} in some fluorite complexes, 213
Free-ion model
comparative analysis of free-ion energy levels of Er^{3+} ($4f^{11}$) in various crystal hosts, 203
f electrons
symmetries of the f shell, 155
f shell
two-body operators for the f shell, 197

Gadolinium
effect of atmosphere on decomposition of Gd-activated barium titanyl oxalate, 79
electron spin resonance study of Gd(III) ions bound to iron binding sites in chicken ovotransferrin, 216
NMR study of $(Y_{1-x}R_x)_2Co_{14}B$ compounds (R = Gd, Tb), 252
spin parameters for the rare earth ion Gd^{3+} in some fluorite complexes, 213
Glasses
optical properties of Pr^{3+} in alkali zinc borosulphate glasses, 189
phonon sideband spectra and local structure around Eu^{3+} ions in sodium germanate glasses, 207

HDDR
Nd–Fe–B anisotropic magnet powders produced by the HDDR process, 259
present status of the HDDR process as applied to the production of magnets, 231
Heat treatment
effect of heat treatments on physical properties of $YBa_2(Cu_{1-x}Fe_x)_3O_y$, 139
High purities
metals, alloys and compounds – high purities do make a difference!, 1
Hydrides
magnetic properties of $PuNi_3$-type hydrides $Y_{1-x}Zr_xCo_2H_y$, 266
Hydriding
formation of Ni-rich U sesquinitride by the reaction of U monocarbide with NH_3, 104
Hydrogen-induced amorphization
local structure evolution in H-induced amorphization of YFe_2 and YNi_2 Laves phases, 7

Insulators
rare earth ions as spectroscopic probes of dynamic properties of insulators, 175
Intermetallic compounds
magnetic study of new Pu(Mt: 3d, 4d or 5d transition metal)$_2$Si$_2$ intermetallic compounds, 119
Iron
effect of mechanical grinding and mechanical alloying on Sm_2Fe_{17}, 268
magnetic analysis of La–Fe dilute alloys, 249
magnetic properties of R_2T_{17}-type $Dy_2Fe_{17-x}Al_x$ compounds, 239
pulsed electrodeposition of Dy–Fe, 23
Iron binding sites
ESR study of Gd(III) ions bound to iron binding sites in chicken ovotransferrin, 216
Isomerization
catalytic isomerization of *n*-butenes and hydrogenation over a Sm oxide and Ga_2O_3-modified Sm oxides, 52

Lanthanide oxychlorides
polarized Raman spectra of single-crystal lanthanide oxychlorides, 194
Lanthanum
magnetic analysis of La–Fe dilute alloys, 249
preparation of LaB_6 single crystals by the floating zone method, 286
Lanthanum boron oxide
catalytic activity of amorphous lanthanum boron oxide for decomposition of azomethane, 76
Ligand exchange
^{13}C NMR characterization of actinyl(VI) carbonate complexes in aqueous solution, 94
Lutetium
ordered Pd_7RE (RE = Tb, Tm, Yb, Lu) phases in Pd–RE alloys, 41

Magnetic fields
magnetic-field-induced phase transition in the Ce monochalcogenide CeSe, 309
Magnetic properties
investigation of the electrical and magnetic properties of $YSr_{2-x}Ca_xV_3O_{9-y}$, 129

magnetic analysis of La–Fe dilute alloys, 249
magnetic properties and crystal structure of $ErRh_3{}^{11}B_2$, 295
magnetic properties of $PuNi_3$-type hydrides $Y_{1-x}Zr_xCo_2H_y$, 266
magnetic properties of R_2T_{17}-type $Dy_2Fe_{17-x}Al_x$ compounds, 239
magnetic properties of the single magnetic domain particles of $Sm_2Fe_{17}N_x$ compounds, 235
magnetic studies on $BaUO_3$, $BaPrO_3$ and $BaTbO_3$, 113
magnetic study of U–M–O ternary mixed oxides (M: Mn, Fe, Co, Ni, Cu), 116
magnetic study of new Pu(Mt: 3d, 4d or 5d transition metal)$_2Si_2$ intermetallic compounds, 119
magnetization process of DyB_6 single crystal, 292
spectroscopic and magnetic studies of tetravalent Pa and trivalent Th compounds, 82

Magnetism
effect of heat treatments on the physical properties of $YBa_2(Cu_{1-x}Fe_x)_3O_y$, 139
magnetic properties of monocrystalline Nd_2 (Fe, Co, Ni)$_{14}$B, 256

Magnetometry
magnetometry and XRD studies of the RE alloys $Y_{1.2}Ce_{0.8}Fe_{17}$ and $Pr_{1.5}Ce_{0.5}Fe_{17}$, 242

Magnets
present status of the HDDR process as applied to the production of magnets, 231

Manganese
formation of $ThMn_{12}$ structure by heat treatment of mechanically alloyed Nd–Fe–TM alloys (TM = Ti, V, Mo) and hard magnetic properties of their nitrides, 262

Mechanical alloying
effect of MG and MA on Sm_2Fe_{17}, 268

Mechanical grinding
effect of MG and MA on Sm_2Fe_{17}, 268

Metamagnetism
neutron diffraction studies of metamagnetic phase transitions in $TbRu_2Si_2$ and $DyRu_2Si_2$, 303

Methane
hydroxy acid-aided synthesis of perovskite-type oxides with large surface areas, 70

Mischmetal oxides
calciothermic reduction of mischmetal oxide and formation of $RmNi_5$, 26

Mixed oxides
magnetic study of U–M–O ternary mixed oxides (M: Mn, Fe, Co, Ni, Cu), 116

Neodymium
energy dispersive XRD analysis of $NdBr_3$ at pressures up to 52 GPa, 306
magnetic properties of monocrystalline Nd_2 (Fe, Co, Ni)$_{14}$B, 256
Nd–Fe–B anisotropic magnet powders produced by the HDDR process, 259

Nickel
crystal structure of CeTSn (T = Ni, Pd and Pt), 300
magnetic properties of monocrystalline Nd_2 (Fe, Co, Ni)$_{14}$B, 256
spalling of the surface oxide formed on Ni–(20,40,60,80)Cr alloys with small additions of Ce and Si, 20
thermodynamics and phase equilibria for Ce and Y in the presence of oxygen and S in Ni-base solutions, 38

Nitrides
formation of $ThMn_{12}$ structure by heat treatment of mechanically alloyed Nd–Fe–TM alloys (TM = Ti, V, Mo) and hard magnetic properties of their nitrides, 262

Nitrogen
equilibrium N_2 pressure–temperature–composition relationships for α-U_2N_{3+x} phase, 122
formation of N-rich U sesquinitride by the reaction of U monocarbide with NH_3, 104

Nuclear magnetic resonance
anisotropic properties of ^{89}Y NMR shift and relaxation in $YBa_2Cu_3O_{6+x}$, 135
^{13}C NMR characterization of actinyl(VI) carbonate complexes in aqueous solution, 94
NMR study of dioxouranium (VI)–CMPO complex, 98
NMR study of $(Y_{1-x}R_x)_2Co_{14}B$ compounds (R = Gd, Tb), 252

n-photon absorption spectroscopy
symmetry adaptation techniques in *n*-photon absorption spectroscopy, 219

Optical properties
optical properties of Pr^{3+} in alkali zinc borosulphate glasses, 189

Organic electrolytes
formation of Y oxide by electrodeposition in organic electrolyte, 277

Ovotransferrin
electron spin resonance study of Gd(III) ions bound to iron binding sites in chicken ovotransferrin, 216

Oxidation
magnetic properties of the single magnetic domain particles of $Sm_2Fe_{17}N_x$ compounds, 235

Oxides
activities of rare-earth-containing oxides as electrodes for oxide ion conductor, 59
hydroxy acid-aided synthesis of perovskite-type oxides with large surface areas, 70
role of rare earth oxides as transport media for rapid catalytic reactions, 47
spalling of the surface oxide formed on Ni–(20,40,60,80)Cr alloys with small additions of Ce and Si, 20

Oxygen
high temperature thermodynamics and applications of RE compounds containing oxygen and S in fuel gas desulphurization and SO_x and NO_x removal, 11
study of the reactivity of surface oxygen species on $SmMnO_3$ and $SmFeO_3$ catalysts, 68

Oxygen removal
removal of oxygen from Pd by calcium vapour, 17

Oxygen storage
application of Ce–Zr oxide solid solution to oxygen storage promoters in automotive catalysts, 73
production method of Ce oxide with high storage capacity of oxygen and its mechanism, 298

Palladium
crystal structure of CeTSn (T = Ni, Pd and Pt), 300
observations of ordered Pd_7RE (RE = Tb, Tm, Yb, Lu) phases in Pd–RE alloys, 41

Paramagnetism
superconductivity and rare-earth paramagnetism in $Pr_{1.85}Ce_{0.15}CuO_4$, 142

Phase transitions
magnetic-field-induced phase transition in the Ce monochalcogenide CeSe, 309
neutron diffraction studies of metamagnetic phase transitions in $TbRu_2Si_2$ and $DyRu_2Si_2$, 303

pressure-induced phase transitions in 5f and 4f metals and compounds, 88
Plasma nitriding
plasma nitriding of Sm_2Fe_{17}, 271
Platinum
crystal structure of CeTSn (T = Ni, Pd and Pt), 300
Praseodymium
magnetic studies on $BaUO_3$, $BaPrO_3$ and $BaTbO_3$, 113
magnetometry and XRD studies of the rare-earth alloys $Y_{1.2}Ce_{0.8}Fe_{17}$ and $Pr_{1.5}Ce_{0.5}Fe_{17}$, 242
optical properties of Pr^{3+} in alkali zinc borosulphate glasses, 189
Pr and Cm in superconductor-related oxides, 125
removal of oxygen from Pd by calcium vapour, 17
Protactinium
spectroscopic and magnetic studies of tetravalent Pa and trivalent Th compounds, 82

Quark model
symmetries of the f shell, 155

Raman spectroscopy
polarized Raman spectra of single-crystal lanthanide oxychlorides, 194
XRD and Raman spectroscopic study on the short-range structure of molten $CeCl_2$, 36
Reduction
calciothermic reduction of mischmetal oxide and formation of $RmNi_5$, 26
Rhodium
magnetic properties and crystal structure of $ErRh_3{}^{11}B_2$, 295

Samarium
effect of mechanical grinding and mechanical alloying on Sm_2Fe_{17}, 268
partial oxidation of alkanes and aromatics with activated oxygen over an $SmCl_3$-embedded graphite cathode, 56
plasma nitriding of Sm_2Fe_{17}, 271
valency states and spectral characteristics of Sm in $MeBeF_4$ (Me = Ca, Sr, Ba), 192
Silicon
epitaxial growth of Y silicide YSi_{2-x} on (100) Si, 289
Single crystals
magnetization process of DyB_6 single crystal, 292
preparation of LaB_6 single crystal by the floating zone method, 286
Solvent extraction
separation of actinoid(III) and actinoid(IV) by solvent extraction and adsorption, 107
Spectroscopic probes
absorption, phonon Raman, and luminescence spectroscopic probes of crystal structure of f-element compounds, 165
Spectroscopic properties
effect of LiF addition on the preparation of transparent Y_2O_3 by the vacuum hot pressing method, 280
Spectroscopy
rare earth ions as spectroscopic probes of dynamic properties of insulators, 175
successes and failures of computer simulations, 148
Sulphur
high temperature thermodynamics and applications of RE compounds containing oxygen and S in fuel gas desulphurization and SO_x and NO_x removal, 11
Superconductors
Pr and Cm in superconductor-related oxides, 125
structural and physical properties of rare-earth (R-) substituted $RBa_2Cu_4O_{8-d}$ superconductors, 132
superconductivity and rare-earth paramagnetism in $Pr_{1.85}Ce_{0.15}CuO_4$, 142
Supercritical alcohols
sintering behaviour of ceria-doped tetragonal zirconia powders crystallized and dried using supercritical alcohols, 274
Superplasticity
very high strain rate superplasticity in Al-based alloys produced from amorphous powders, 29
Symmetry adaptation
symmetry adaptation techniques in *n*-photon absorption spectroscopy, 219

Terbium
magnetic studies on $BaUO_3$, $BaPrO_3$ and $BaTbO_3$, 113
observations of ordered Pd_7RE (RE = Tb, Tm, Yb, Lu) phases in Pd–RE alloys, 41
Ternary compounds
the importance of ternary intermetallic compounds in science and technology, 223
Thermal decomposition
effect of atmosphere on decomposition of Gd-activated barium titanyl oxalate, 79
Thermodynamics
high temperature thermodynamics and applications of RE compounds containing oxygen and S in fuel gas desulphurization and SO_x and NO_x removal, 11
thermodynamics and phase equilibria for Ce and Y in the presence of oxygen and S in Ni-base solutions, 38
Thorium
formation of $ThMn_{12}$ structure by heat treatment of mechanically alloyed Nd–Fe–TM alloys (TM = Ti, V, Mo) and hard magnetic properties of their nitrides, 262
spectroscopic and magnetic studies of tetravalent Pa and trivalent Th compounds, 82
Thulium
observations of ordered Pd_7RE (RE = Tb, Tm, Yb, Lu) phases in Pd–RE alloys, 41
Titanium
diffusion of U in Ti-doped U dioxide, 110

Uranium
diffusion of U in Ti-doped U dioxide, 110
equilibrium N_2 pressure–temperature–composition relationships for α-U_2N_{3+x} phase, 122
magnetic studies on $BaUO_3$, $BaPrO_3$ and $BaTbO_3$, 113
Uranium sesquinitrides
formation of N-rich U sesquinitride by the reaction of U monocarbide with NH_3, 104
some problems in nonstoichiometry of α-uranium sesquinitride, 101
Uranyl ion
energy transfer from the excited uranyl ion to various lanthanide ions in aqueous solution, 186

Valency states
valency states and spectral characteristics of Sm in $MeBeF_4$ (Me = Ca, Sr, Ba), 192
Vibronic spectra
J-mixing effect of the vibronic spectra of Eu^{3+} ions, 183

X-ray diffraction
magnetometry and XRD studies of the rare-earth alloys $Y_{1.2}Ce_{0.8}Fe_{17}$ and $Pr_{1.5}Ce_{0.5}Fe_{17}$, 242

pressure-induced phase transitions in 5f and 4f metals and compounds, 88
XRD and Raman spectroscopic study on the short-range structure of molten $CeCl_3$, 36

Ytterbium
observations of ordered Pd_7RE (RE = Tb, Tm, Yb, Lu) phases in Pd–RE alloys, 41
preparation and catalytic properties of lanthanide-metal-dosed catalyst systems, 62
Yttrium
anisotropic properties of ^{89}Y NMR shift and relaxation in $YBa_2Cu_3O_{6+x}$, 135
catalytic activity of lanthanide-doped Y zeolite on the alkylation of benzene with 1-dodecene model reaction, 65
electrical conductivity of molten YCl_3–NaCl, YCl_3–KCl and YCl_3–$CaCl_2$ systems, 33
electrochemical preparation of Y–Ba–Cu oxide layer on Cu, 145
formation of Y oxide by electrodeposition in organic electrolyte, 277
local structure evolution in H-induced amorphization of YFe_2 and YNi_2 Laves phases, 7
magnetometry and XRD studies of the rare-earth alloys $Y_{1.2}Ce_{0.8}Fe_{17}$ and $Pr_{1.5}Ce_{0.5}Fe_{17}$, 242
effect of the heat treatments on the physical properties of $YBa_2(Cu_{1-x}Fe_x)_3O_y$, 139
thermodynamics and phase equilibria for Ce and Y in the presence of oxygen and S in Ni-base solutions, 38
Yttrium silicide
epitaxial growth of yttrium silicide YSi_{2-x} on (100) Si, 289

Zirconia
sintering behaviour of ceria-doped tetragonal zirconia powders crystallized and dried using supercritical alcohols, 274
Zirconium
application of Ce–Zr oxide solid solution to oxygen storage promoters in automotive catalysts, 73